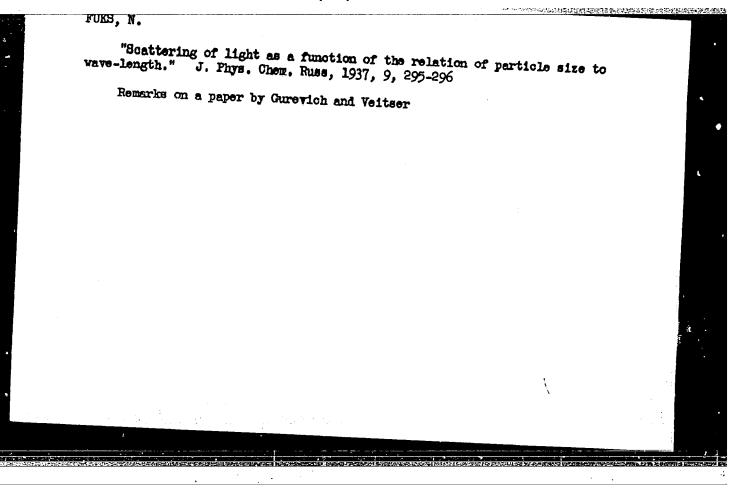


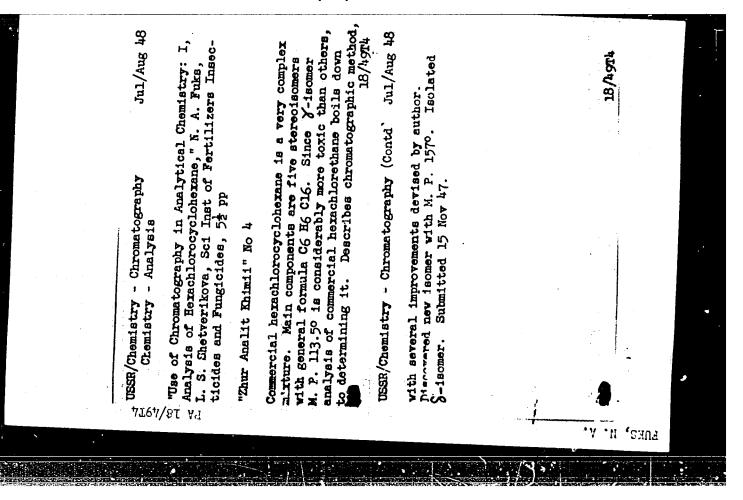
FUKS, N. AND ROTTEETG, B.

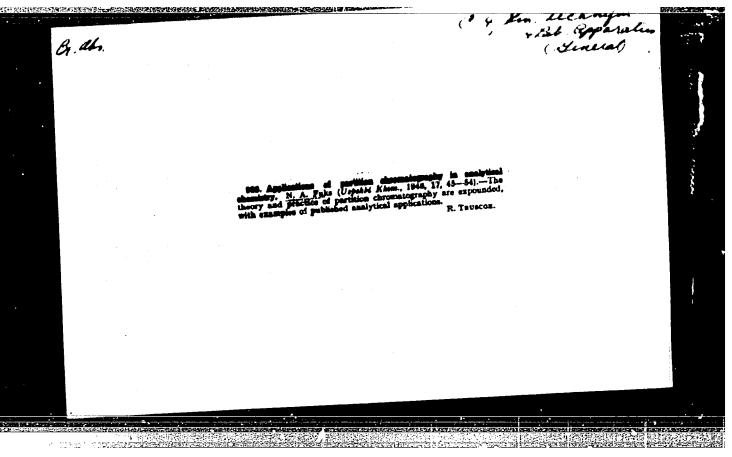
"Ultramicroscopic determination of the damensions of aerosol particles."

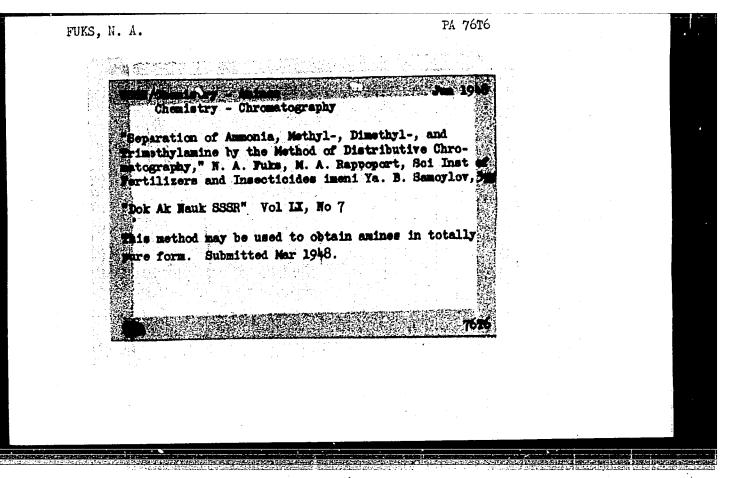
J. Phys Chem. (USSR) 9, 35-40 1937.

Dimensions of oil fog and NH Cl smoke particles were detd. down to a radius of 0.1 ... The method can be used over a wide range of aerosol conen. On rapid Mixing with cold air submicroscopic aerosols ere obtained.



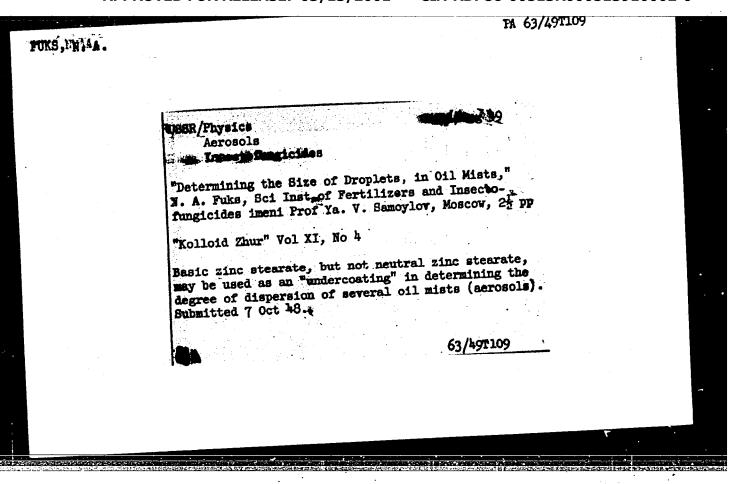




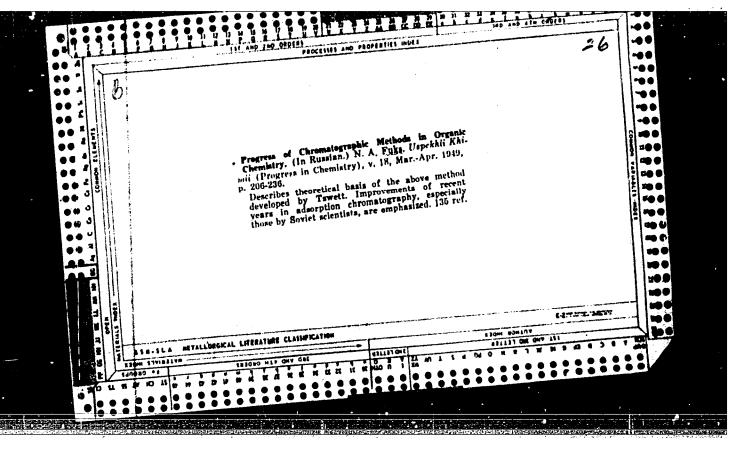


FUKS, N.A.; KUPERMAN, M.Ye.

Powdered, organic insectofungicide. Patent U.S.S.R. 77,920, Dec.31, 1949. (CA 47 no.19:10170 '53)

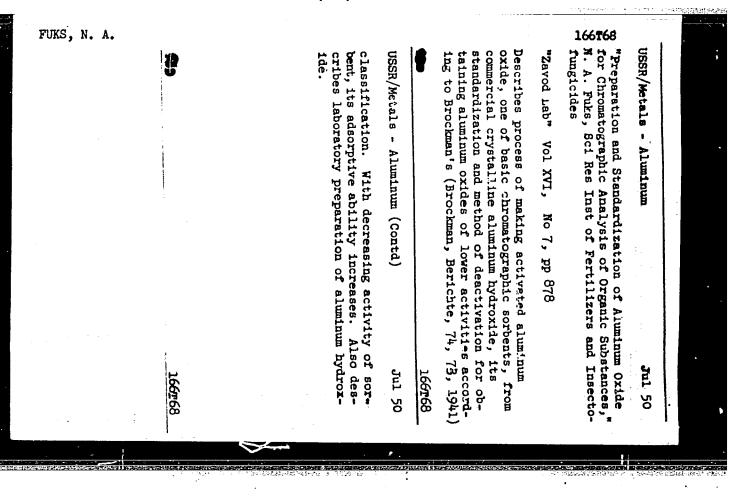


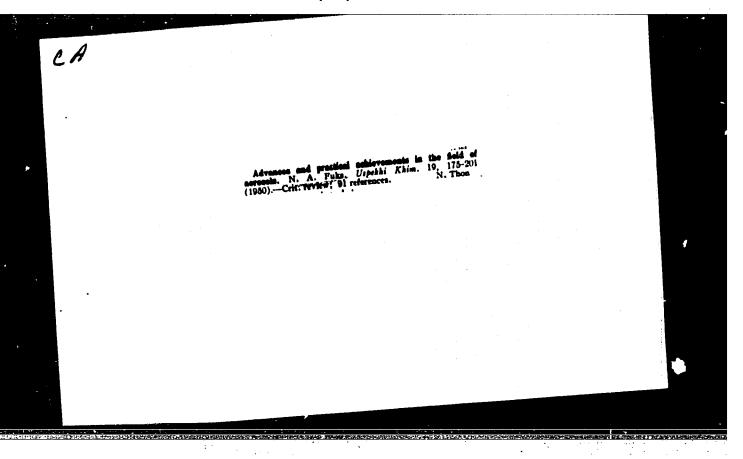
"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000513910002-0



"APPROVED FOR RELEASE: 03/13/2001

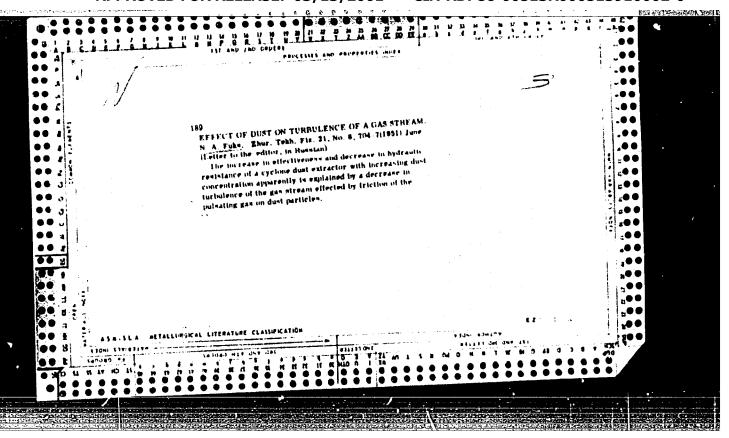
CIA-RDP86-00513R000513910002-0





FUKS, N. A.

"Tsvet's Method (Chromatography) in Organic Chemistry," Reakts. org. soyed., No.1, 1951



DUBININ, M.M., akademik, otvetstvennyy redaktor; GAPON, Ye.N.; GAPON, T.B.;

ZHYPAKHINA, Ye.S.; RACHINSKIY, V.V.; BELEN'KAYA, I.M.; SHUVAEVA, G.M.;

ROGINSKIY, S.Z.; YANOVSKIY, N.I.; FUKS, N.A.; KISELEY, A.V.: HEYMARK, I.Ye.;

SLINYAKOVA, I.B.; KHATJET, F.I.; LOSEY; I.F.; TROSTYANSKAYA, Ye.B.;

TEVLINA, A.S.; DAVANKOV, A.B.; SALDADES, K.M.; BRUMBERG, Ye.M.; ZHIDKOVA,

Z.V.; YEDENEEVA, N.Ye.; NAPOL'SKIY, S.A.; MIKHAYLOVA, Ye.A.; KAZANSKIY, B.A.;

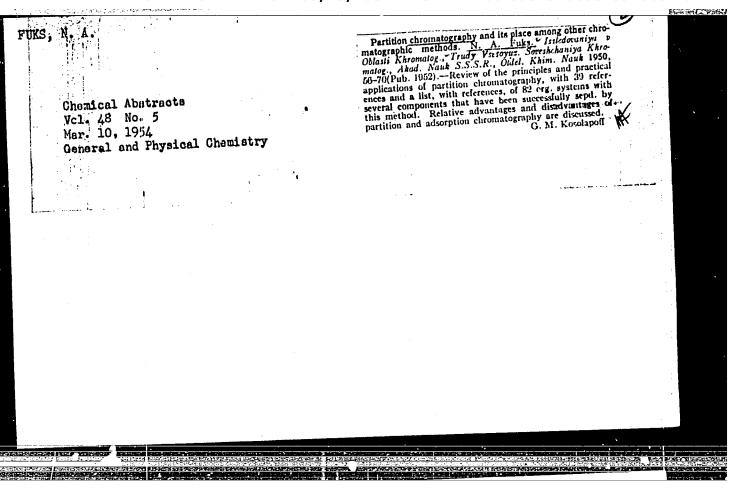
RYABCHIKOV, D.I.; SHEMYAKIN, F.M.; KRETOVICH, V.L.; BUNDEL', A.A.; SAVINOV,

B.G.; VENDT, V.P.; EPSHTEYN, Ye.A.

THE REPORT OF THE PROPERTY OF

[Research in the field of chromatography transactions of the All-Union Conference on Chromatography, November 21-24, 1950] Issledovaniia v oblasti khromatografii; trudy Vsesoiuznogo soveshchaniia po khromatografii, 21-24 nciabria 1950 g. Moskva, Izd-vo Akademii nauk SSSR, 1952. 225 p. (MLHA 6:5)

1. Akademiya nauk SSSR. Otdelenie khimicheskikh nauk. (Chromatographic analysis)



FUKS, N.A.; DERYAGIN, B.F., redaktor; YEGOROV, N.G., redaktor; SOUGROV,

B.A., tekhnicheskiy redaktor.

[Mechanics of aerosols] Mekhanik. aerosolei. Moskva, Izd-vo
Akademii nauk SSSR, 1955. 351 p.

(Aerosols)

USSR/Fhysical Chemistry - Surface Fhenomena. Adsorption.
Cheromatography. Ion Exchange

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 3990

Author : Fuks N.A.
Title : Gas-Liquid Chromatography

Orig Pub : Uspekhi khimii, 1956, 25, No 7, 845-858

Abstract : A review article.
Bibliography 23 references.

AUTHORS:

Fuks, N.A., Kazakova, T.P.

32-12-61/71

YEAR THE ENGLISH WAS DEBYED.

TOTLE:

Shor: Reports (5) (Korotkiye soobshcheniya).

PERIODICAL:

Zavodskaya Laboratoriya, 1957, Vol. 23, Nr 12, pp. 1520-1520 (USSR)

ABSTRACT:

In this paper a new device for the uniform application of dosed suspension solutions on to surfaces is recommended. According to the schematical drawing given, the apparatus consists of a calibrated glass syringe in which a mixer takes the place of a piston. It further has a knee pipe with stop cock and an atomizer, to which the compressed air is conveyed through a connecting tube. For the purpose of stirring the suspension solution before use, connection to a motor is provided for. The diameter of the knee pipe (capillary) and its curvature is selected in accordance with the character of the suspension solution. The plates to be aprayed, which were previously weighed, are laid upon the disk of a gramophone. Because of the centrifugal force this disk is provided with a projection at its edge. Spraying of the plates takes place while the disk performs 20 to 30 revs. per minute. After the coating has been dried, the plates are again weighed, and the increased weight is then equal to the quantity of the suspension coating. There is ! figure.

Card 1/2

1

ASSOCIATION: Central Scientific Research Institute for Disinfection (Tsentral'ny; nauchno-issledovatel'skiy dezinfektsionnyy institut).

AVAILABLE: Library of Congress
Card 2/2 l. Solutions suspensions-Applications 2. Solution suspensions-Devices

USSR / General and Specialized Zoology. Insects. Harmful Insects P and Acarids. Chemical Nothods in the Control of Harmful Insects and Acarids. : Rof Zhur - Biol., No 18, 1958, No. 82939 Abs Jour : Fuks, N. A.; Kazakova, T. P.; Tregubov, A. N.; Klechotova, A. M.; Pogodina, L. N.; Klochotova, A. M. : Contral Scientific Rosearch Institute for Disinfectants Author Inst : The Clarification of the Reasons for the Low Effectiveness Title of the Emulsions and the Higher Effectiveness of DDT Proparations : Tr. Tsontr. n.-i. dozinfekts. in-ta, 1957, vyp. 10, Orig Pub : No abstract given Abstract Card 1/1

10(0)

PHASE I BOOK EXPLOITATION

sov/1913

Füks, Nikolay Al'bertovich

- Ispareniye i rost kapel' v gazoobraznoy srede (Evaporation and Growth of Drops in a Gaseous Medium) Moscow, Izd-vo AN SSSR, 1958. 89 p. (Series: Itogi nauki; fiziko-matematicheskiye nauki, 1) Errata slip inserted. 3,000 copies printed.
- Sponsoring Agency: Akademiya nauk SSSR. Institut nauchno-tekhni-cheskoy informatsii.
- Resp. Ed.: I.V. Petryanov, Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: K.P. Gurov; Tech. Ed.: S.G. Markovich.
- PURPOSE: This book is intended for scientists and engineers interested in the kinetics of the evaporation and growth of droplets.
- COVERAGE: With this work the author purports to fill a gap in the existing Soviet and non-Soviet literature on the evaporation and growth of droplets. The book surveys the work accomplished in the

Card 1/3

NOVOTEL'HOVA, H.F.; RAFAHOVA, R.Ya.; MUKS, N.A.

Composition of vetiver essential oil. Report No.4, Trudy
VNIISHDV no.4:201-705 '58. (MIRA 12:5)

(Basences and essential oils)

FUKS A 4.

AUTHOR:

Fuks, N. A.

57-1-21/30

TITLE:

On the Theory of Evaporation of Small Drops (K teorii

ispareniya melkikh kapelek)

PERIODICAL:

Zhurnal Tekhnichoskoy Fiziki, 1958, Vol. 28, Nr 1, pp.

159-162 (USSR)

ABSTRACT:

An equation for the evaporation velocity in a gaseous medium of drops with a radius r nearly equal to the mean free length of path λ , is derived. As it can be seen from the theoretical computations (ref. 2) and the direct measurings (ref. 3) the temperature gradient rises considerably with the approximation to the wall beginning with the distance of the order of magnitude & and reaches a degree much higher than the normal one of the gradient which was computed according to the equation for the heat conductivity. Regarding the similarity of the phenomena of heat conductivity and diffusion in gases this holds good also for the vapour concentration gradient near the evaporation surface. Therefore, the evaporation verlocity at first approximation can be computed assuming that the FIK equation is applicable only at a distance : of the order of magnitude A from the surface of the drops while

Card 1/3

On the Theory of Evaporation of Small Drops

57-1-21/30

in the layer near the wall of a thickness of a the exchange of vapour molecules occurs without difficulties like in the vacuum. The formula given here can be used in the case of any ratio λ/r in contrast with that of the other authors, it also agrees better ...th the experimental data. The shortcoming of the given computation is the indetermination of the coefficient 3 occurring in this equation. For the purpose of experimental control of the computations given here only the data of the Bradley Laboratory (ref. 13,14, 16) on the evaporation velocity of liquid drop: with very little vapour pressure can be used. The deviation of the experimental data is rather important. In order to be able to judge definitely on the different formulae more precise measurings and experiments with higher α/r - values must be carried out.

M. A. Leontovich, Member of the Academy, advised the author. There are 1 figure, and 16 references, 3 of which are Slavic.

ASSOCIATION:

All-Union Institute for Scientific and Technical Information, Moscow (Vsesoyuznyy institut nauchnoy i tekhnicheskoy

Card 2/3

informatsii, Moskva)

AUTHORS:

Fuks, N. A., Yankovskiy, S. S.

20-119-6-35/56

TITLE:

On the Thermophoresis in an Aerosol Flow (O termoforeze v

potoke aerozolya)

PERIODICAL:

Doklady Akademii muk SSSR, 1958, Vol. 1'9, Nr 6,

pp. 1177 - 1179 (USSR)

ABSTRACT:

The problem of the magnitude of the forces acting upon the aerosol particles in an unequally heated medium theoretically was solved for 2 limit cases: For very high and for very low values of the ratio d/λ , where d is the dimension of the particles and λ the mean free path length of the gas. In the case of $d\ll\lambda$ the presence of the particle does not disturb the velocity distribution of the molecules. The temperature gradient within the particle is low and may be neglected. In the case of $d\gg\lambda$ the temperature gradient on the surface of the particle plays an essential role, it causes a gliding of the gas along the surface. In these two limit cases the velocity of the thermophoresis does not depend on the size of the particles. The velocity of the thermophoresis must be considerably higher at $d\ll\lambda$ than at $d\gg\lambda$. Only particles of very bad heat conductors are

Card 1/3

On the Thermophoresis in an Aerosol Flow

20-119-6-35/56

described speaks for the fact that the velocity of the thermophoresis in a current continuously increases with the increase of the dimensions of the particles. Finally the inertia and the deviations dependent by Brown's motion are discussed. There are 1 figure and 12 references, 4 of which are Soviet.

ASSOCIATION:

Gosudarstvennyynauchno-issledovatel'skiy institut tsvetnykh metellov (State Scientific Research Institute of Nonferrous

Metals)

PRESENTED:

January 2, 1958, by A. N. Frumkin, Member, Academy of

Sciences, USSR

SUBMITTED:

December 28, 1957

Card 3/3

5(4)

SOV/69-21-1-20/21

AUTHORS:

Fuks, N.A. and Yankovskiy, S.S.

TITLE:

To Methods of Precipitation of Aerosols in a Thermoprecipitator for Electronic Microscope Research. (K metodike osazhdeniya aerozoley v termopretsipitatore dlya elektronno-mikroskopicheskogo issledovaniya.)

PERIODICAL:

Kolloidnyy zhurnal, 1959, Vol XXI, Nr 1, pp 133-134

(USSR)

ABSTRACT:

A new technique for a thermal precipitation of aerosols on a thin organic film is described. By its means, the usual errors, caused by the preferential settling of the particles on the wires of the supporting net, are eliminated. There is 1 photo and 2 references, lof which is British and 1 German.

ASSOCIATION: Nauchno-issledovatel'skiy institut tsvetnykh metallov.

(The Scientific Research Institute of Non-Ferrous

Metals) Moscow. July 18, 1958

SUBMITTED:

Card 1/1

[Progress of the mechanics of aerosol:] Uspekhi mekhaniki aerozolei.

Moskva, Izd-vo Akac nauk SSSR, 1961. 158 p. (Itogi nauk: Khimicheskie nauki, no.5).

(Aerosols)

FUKS, N. A.

""Transport phenomena in aerosols with particle size comparable with the mean free path of the gas molecules"
To be presented at the First National Conference on Aerosols - Liblice, Czechoslovakia, 8-13 Oct 1962

Scientific Research Inst. of Fertilizers and Insectofungleides imeni Ya.V. Samoylov, Moscow (1959 position)

S/057/62/032/002/022/022 B124/B102

AUTHOR:

Fuks, N. A.

TITLE:

Vertical distribution of particles suspended in a turbulent

flow

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 2, 1962, 255 - 257

TEXT: According to the theory of steady-state vertical distribution of equal particles suspended in a turbulent flow,

 $nV_s = -n_{tp} \frac{dn}{dz}$ (1), or $\ln \frac{n}{n_0} = -V_s \int_0^z \frac{dz}{D_{tp}(z)}$ (2) where n is the particle concentration on the level of the area under consideration, V_s is the sedimentation rate, $\frac{dn}{dz}$ is the vertical concentration gradient, and D_{tp} is the coefficient of vertical turbulent diffusion of the particles. The turbulent diffusion coefficient D_{tm} of the fluid was calculated from $D_{tm} = k\nu_t$, where k is a proportionality factor (~1), and ν_t is the coefficient of Card 1/4

v. venezenémesz

S/057/62/032/002/022/022 B124/B102

Vertical distribution ...

turbulent viscosity. Objections were raised to this method of calculating D_{tm} and to the comparison of D_{tp} with D_{tm} . The second objection has been answered with reference to Tchen's theorem, according to which D_{tp} is independent of the particle size, and is thus equal to D_{tm} . This means that the rate of particle pulsation increases with decreasing size or, more exactly, with the relaxation time, but their persistence of motion simultaneously increases, so that these two effects compensate each other. With constant D_{tp} , $D_{tp} = -\frac{Vz}{D_{tp}}$ (3) is obtained from Eq. (2). B. N. Broun-

shteyn and O. M. Todes (Ref. 10: ZhTF, 23, 110, 119, 1953; Ref. 11: Sb. trudov GlPKh po fizich. khimii, p. 126, Goskhimizdat, 1960) have derived the relation $\ln \frac{n}{n_0} = -\frac{3\varepsilon z}{v^2}$ (4) for vertical particle distribution, where

g is the gravitational acceleration, and v^2 is the mean square of the pulsation rate of the particles. For Brownian movement, these authors have found that Card 2/4

particles. For turbulent flow, however, $D_{tp} = \frac{1}{3} v^2 L_p$, where L_p is the Lagrangian of the pulsating motions of the particles. Thus, the correct equation for the present case is Card 3/4

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000513910002-0

Vertical distribution ...

S/057/62/032/002/022/022 B124/B102

 $\ln \frac{n}{n_0} = -\frac{Tgz}{D_{tp}} = -\frac{3Tgz}{v^2L_p}$ (8). As L_p is usually much greater than τ , increased values are obtained for the concentration gradient of very small

particles. There are 14 references: 7 Soviet and 8 non-Soviet. The four most recent references to English-language publications read as follows: Tchen Chan-Mou. Mean Value and Correlation Problems Connected with the Motion of Small Particles Suspended in a Turbulent Fluid, The Haag, 1947; S. L. Soo, Chem. Engng. Sci., 5, 57, 1956; Vi-Cheng Liu. J. Meteor. 13, 399, 1956; S. Soo, C. Tien, V. Cadambi, Rev. Sci. Instr. 30, 821, 1959.

ASSOCIATION: Fiziko-khimicheskiy institut im. Karpova, Moskva (Physico-chemical Institute imeni Karpov, Moscow)

SUBMITTED: February 10, 1961

S/020/62/147/005/030/032 B101/B186

AUTHORS: Fuks, N. A., Stechkina, I. B.

TITLE: Theory of fibrous aerosol filters

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 5, 1962, 1144-1146

TEXT: This is a discussion on the sedimentation of aerosol particles on a cylindrical fiber, perpendicular to the flow direction, calculated by I. Langmuir (OSRD Rep. N 865 (1942)) and C. N. Davies (Proc. Inst. Mech. Eng., IB, 185 (1952)). Calculations for a system of parallel fibers made by J. Happel (Am. Inst. Chem. Eng. J., 5, 174 (1959)) and S. Kuwobara (J. Phys. Soc. Japan, 14, 527 (1959)) are also discussed. A method given by G. L. Natanson (DAN, 112, 100 (1957)) for an isolated cylinder was applied to calculate the accumulation factor for a system of parallel cylinders under the condition Pe = $2U_0 a/D \gg 1$, where Pe is the Peclet number, D is the diffusion coefficient, U_0 is the flow velocity far from the filter, and a is the cylinder radius. Results: $E = 2.9(-0.5 \ln a - h)^{-1/2} pe^{-2/3}$, where $\alpha = 1 - \xi = (a/b)^2$, ξ is the filter porosity, and λ is an empirical Card 1/2

Theory of fibrous aerosol filters

S/020/62/147/005/030/032 B101/B186

constant. A comparison of the values calculated from this equation with those obtained by Natanson, and with experimental data obtained by S. C. Stern, H. W. Zeller, and A. I. Schekman (J. Coll. Sci., 15, 546 (1960)) shows that the values calculated for an isolated fiber are too low, whereas those obtained from the above equation approach the values calculated by Stern et al. and also those by D. G. Thomas, and C. E. Lapple (Am. Inst. Chem. Eng. J., 7, 203 (1961)). There is 1 figure.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova

(Physicochemical Institute imeni L. Ya. Karpov)

PRESENTED: July 21, 1962, by A. N. Frumkin, Academician

SUBMITTED: July 12, 1962

Card 2/2

FUES, N.A.; STECHKINA, I.B.; STAROSEL'SKIY, V.A.

Determining the distribution of aerosols by size, using the diffusion method. Inzh.-fiz.zhur. 5 no.12:100-103 D '62.

(MIRA 16:2)

1. Fiziko-khimicheskiy institut imehi L.Ya.Karpova, Moskva.

(Aerosols)

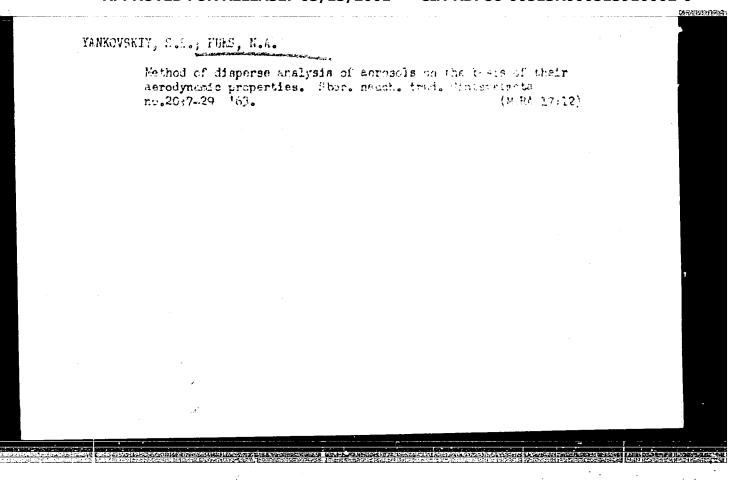
(Particle size determination)

Resistance of a gaseous medium to the movement of particles having a size comparable to the mean free path of gas molecules. Zhur.tekh.fiz. 33 no.1:132-135 Ja '63.

(MIRA 16:2)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni L.Ya.Karpova, Moskva.

(Molecular dynamics) (Hydrodynamics)



FUKS, N.A.; SUTUGIN, A.G.

Droplet size distribution in dibutyl phthalate mists obtained by the method of condensed nuclei. Koll. zhur. 25 no.4:487-493 Jl-Ag '63. (MIRA 17:2)

1. Fiziko-khimicheskiy institut imeni Karpova, Moskva.

	The state of the s	•
L 41760-65 EWT(1)/FCC GW 8/0049/64/000/004/05	579/0586	
AUTHORE Fuks, N. A.	6 8	
TITLE: Stationary charge distribution of seronol particles in bipolar ion		
atmosphere		
SOURCE: AN SSSR. Izvestiya. Seriya geofizicheskaya, no. 4, 1964, 579-585	in the second se	
TOPIC TAGS: stationary charge distribution, aerosol particle, bipolar ion atmosphere, aerosol charge, stationary diffusion ABSTRACT: The stationary distribution of aerosol particles of various dimensions.	ensions .	
in a symmetric, bipolarly ionised avansphere has been studied in the absen external field but with ion concentration discontinuity at the particle su for the latter a "boundary sphere" model has been used with radius & different traparticle radius a by	rface.	
$\frac{\delta}{\left(\frac{1}{a} + \frac{\lambda}{a^2}\right)^6} = \frac{\left(1 + \frac{\lambda^2}{a^2}\right)^6 \left(1 + \frac{\lambda^2}{a^2}\right)^6 \left(1 + \frac{\lambda^2}{a^2}\right)^6}{3} + \frac{2}{15} \left(1 + \frac{\lambda^2}{a^2}\right)^{\frac{1}{10}}$		
Card 1/		77.51 11.50

diffusion given by $\frac{\pi \acute{a} c \delta^{i} n_{0} \exp\left[-\frac{\phi\left(\delta\right)}{kT}\right]}{4D \sqrt{\frac{\sigma^{i}}{\rho^{i}} \exp\left[\frac{\phi\left(\rho\right)}{kT}\right]} d\rho}$ $\frac{4\pi a D n_{0}}{a c \delta^{i}} \frac{4D n_{0}}{kT} \left[\frac{\phi\left(\delta\right)}{kT}\right] + \Psi$	
where $Y = a \int_{0}^{1} \frac{i}{\rho^{2}} \exp\left[\frac{\varphi(\rho)}{kT}\right] d\rho = \int_{0}^{\infty} \exp\left[\frac{\varphi(a/x)}{kT}\right] dx$ Here φ is a function of a/3 determining the fraction of ions colliding with the	

L 41760-65 ACCESSION NR: AP4033622		· · · · · · · · · · · · · · · · · · ·	
used only for particles a formula show that charge	particle distribution. Practice vith a radius of 3°10° cm. Es distribution values are undere re_timated if the ion concentra	stimates using the bolozman stimated in comparison to tion liscontinuity at the	
is also represented graph (particle charge) in non Enclosure). Orig. art.	cted. The stationary ion districtly for a = 10-5 to 10-6 cm dimensional coordinates n/no an has: 15 formulas, 2 figures, s	i O/a (see Fig. 1 on the	
ASSOCIATION: Nauchno-is (Scient: fic Research Phy	sledovatel'skiy fiziko-khimicha sicochemical Instituta)	party moderate me market	
SUBMITTID: 24Jul63	ENCLE OL	STB CODI: SS	
NO REF SOVE COL	OTHER: OLO		4
		· · · · · · · · · · · · · · · · · · ·	
Card 3/L			

FUKS, N.A.; SELIN, A.N.

Dispersion of powders by air. Inzh.-fiz. zhur 7 no.1:123-126 Ja '64.

(MIRA TILL)

1. Fiziko-khimicheskiy institut imeni L. Ya. Karpova, Moskva.

FUKS, N.A.; SUTUGIN, A.G.

Highly disperse aerosols. Koll.zhur. 26 no.1:110-116 Ja-F '64.
(MIRA 17:4)

1. Fiziko-khimicheskiy institut imeni Karpova, Moskva.

EWT(m)/EWP(1) RM ACCESSION NR: AP5022513 UR/0303/65/000/004/0050/0057 667.644.3 Gubenskiy. TITLE: Determination of the size and charge of individual particles in the electrostatic atomization of organic coating materials SCURCE: Lakokrasochnyye materialy i ikh primeneniye, no. 4, 1965, 50-57 TOPIC TAGS: atomization, charged particle, varnish, optic measurement ABSTRACT: A variant of an oscillographic method and an instrument were developed for determining the size and charge of individual particles during electros' acic atomization of organic coating materials. The limits of the measurements are r (radius) = 1-70 microns and $q = 10^3 - 10^6$ electronic charges. Charges below 103 e. c. can also be measured. The sign of the charge on a particle is determined from the asymmetry of the trajectories when a weak constant field is applied on an alternating electric field (a sinusoidal voltage being used), or from the shape of the particle trajectories when a rectangular constant voltage is used. The instrument is also suitable for studying both liquid and solid individual charged particles obtained by other methods of atomization and charging. The size of un-

	L 1875-66 ACCESSION NR: AP5022513		
	charged particles can be measured when pulsed illumination sources are employed. It is shown that in the case of optimum physicochemical properties of the liquids and optimum electrostatic atomization parameters, the curves of size distribution approach a lognormal distribution. The charge on the particles was found to increase with the radius r; the dependence of the charge on the radius is expressed by a parabolic curve and generally obeys the exponential function q = a rn, in which constants a and n depend on the properties of the liquids and conditions of electrostatic atomization. Orig. art. has: 9 figures. ASSOCIATION: None		4.00
		- 1	
	SUIMITTED: 00 SUB CODE: CC, GC,		
	NO REF SOV: 007 OTHER: 004		
-	Card 2/2		

FUKS, N.A.; SUTUGIN, A.G.

Monodispersed aerosols. Usp.knim. 34 no.2:276-299 F 165.

(MIRA 18:5)

2. Fiziko-khimicheskiy institut imeni Karpova, Moskva.

L 35391-66 EWT(m)/T DS/WW	<u>, , ,</u>	T_{i}
ACC NR. AP6026840 SOURCE CODE: UR/0069/66/028/001/0131/013	8	
AUTHOR: Fuks, N. A.; Sutugin, A. G.		
ORG: Scientific Research Physico-Chemical Institute im. L. Ya. Karpov (Nauchno-issledovatel'skiy fiziko-khimicheskiy institut)	ż	
TITIE: Coagulation constants of highly dispersed aerosols		
SOURCE: Kolloidnyy zhurnal, v. 28, no. 1, 1966, 131-138		
TOPIC TAGS: aerosol chemistry, diffuser, vapor condensation, chemical kinetics		
ABSTRACT: By nephelometry carried out on mists formed during "development" of highly dispersed aerosols, the degree of coagulation of NaCi aerosols with particles having an average radius of 25 and 45 Å was determined after the aerosols had been passed through a tube with a diffuser. Development took place by condensation of dibutyl phthalate vapor on them in a special apparatus. Before development of the imitial aerosols, which had a high particle concentration (100-107 cm -3), the mists were diluted by a factor of 100-1000		
tube with an oil mist of high optical density and low dispersity and measuring		-
the constants of the		
UDC; 541,182,2/,3] [
Card 2/2 both . 09/6 2594		, ,
	$\overline{}$	التناف فيستحدون

L LUL13-66 EWT(1)/EWT(m)/T DS/WW/RO/GW

ACC NR: AP6024433 SOURCE CODE: UR/0362/66/002/007/0770/0771

AUTHOR: Fuks, N. A.; Strel'tsov, L. V.

ORG: Physicochemical Institute im, L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: Methodology of investigating large-particle aerosol settlings in the surface boundary layer of the atmosphere

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 7, 1966, 770-771

TOPIC TAGS: aerosol chemistry, atmosphere, aerosol, aerosol particle

ABSTRACT: A method of fractionation developed at the Institute for Applied Geophysics (Institut prikladnoy geofiziki) for investigation of the settling of large aerosol particles in the surface layer of the atmosphere has been modified and improved by the authors in order to make it suitable, without laboratory facilities, for investigations of toxic chemical particles deposited by spraying and dusting for various purposes. The main changes in the process were the use of slurry instead of powder, and the use of alcohol solutions making it possible to obtain clearly defined fractions, and the use of alcohol solutions

Card 1/2

UDC 551.508.91

FUKS, N.L.

- Experience obtained in the operation of assemblies for absorption of the excess energy of recuperation. Blek.i tepl.tiaga 3 no.9:8-9 S 159. (MIRA 13:2)
 - Nachal'nik otdela ekspluatatsii sluzhby elektrifikatsii energeticheskogo khozyaystva, g.Irkutsk. (Electric railroads-Equipment and supplies)

How to prevent inverse current flow in contact network systems.

Elek. i tepl. tiaga 7 no.6:8-9 Je '63. (MIRA 16:9)

1. Glavnyy inzh. sluzhby elektrifikatsii i energeticheskogo khozyaystva Vostochno-Sibirskoy dorogi.

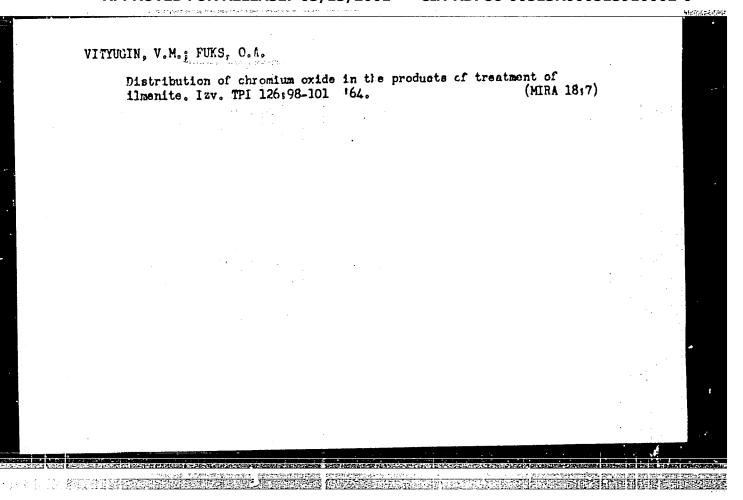
(Electric railroads-Wires and wiring)

TARASENKO, V.T. (Irkutsk); FUKS, N.L. (Irkutsk)

Increasing the reliability of electric power supply systems. Zhel. dor. transp. 45 no.6:76-79 Je 163. (MIRA 16:7)

1. Nachal'nik sluzhby elektrifikatsii i energeticheskogo khozyaystva Vostochno-Sibirskoy dorogi (for Tarasenko).
2. Glavnyy inzh. sluzhby elektrifikatsii i energeticheskogo khozyaystva Vostochno-Sibirskoy dorogi (for Fuks).

(Electric railroads-Substations)



KRAYTSBERG, M.I., kand. tekhn. nauk; FUKS, P.A., inzh.

Selecting the power of electric motors for machines operating with random load. Vest. mashinostr. 44 no.10:26-28 0 '64.

(MIRA 17:11)

GUDZOVSKIY, G.A.; FUKS, P.M.

Carrying out a mass examination of workers in the mining indystry of Kirghizistan. Sov.zdrav.Kir. no.2: 35-37 Mr-Ap *58. (MIRA 12:12)

1. Iz kafedry obshchey gigiyeny (ispolnyayushchiy obyasannosti zaveduyushchego - dotsent G.A. Gudsovskiy) i kafedry fakulitetskoy terapii (zav. - zaslushennyy deyateli nauki, prof. M.Ye. Volishiy) Kirgisskogo gosmedinstituta.

(KIRGHIZISTAN-MINERS-DISEASES AND HYGIENE)

FUKS, R.

Austrian spotted type of cattle in connection with the importation and breeding of Simmethals in the lowlands of Southern Bosnia. p. 296. (GLASNIK, Vol. 5, No. 7, July 1956 (Published 1957)

SO: Monthly List of East European Accessions (EEAL) IC Vol. 6, No. 12, Dec. 1957 Uncl.

KLEBANOV, M.A., prof. (Kiyev); Prinimali uphastiye: BEREZITSKIY, A.V. (Kiyev);

PEKAR', P.P.; SAVENKOV, D.I.; TARAMENKO, M.I.; MELAMED, M.A.;

BORSHCHEVSKIY, M.L. (Odessa); VIL'NYANSKIY, L.I. (Khar'kov);

SOKOLOVA, Yu.I. (Khar'kov); ABERMAN, A.A.; KULAKOVA, S.A. (Simoferopol');

FUKS, R.A. (Dnepropetrovsk); BEZNOSOVA, Zh.A. (Vinnitsa); KUKLINA,

N.P. (Zhitomir); SIDORENKO, G.P. (Chernovitsy); D'YACHENKO, N.S.

(Stanislav).

Reduction in the periods of therapeutic pneumothorax following its use in combination with antibacterial therapy. Vrach. delo no.12: 36-40 D '60. (MIRA 14:1)

1. Ukrainskiy institut tuberkuleza imeni F.G.Yanovskogo (for Klebanov).
2. Dispanser Yugo-Zapadnykh zheleznykh dorog (for Aberman).
(PNEUMOTHORAX) (TUBERCULOSIS)

Author: Puks, S. I.

Title: Hard alloys and their application in high-specific chiting. (Ivercys

splayy i ikh primenenie pri skorostnem reparti.) 75p.

City: Kiev

TUKS, S. I.

Publisher: State Scientific-Technical Publication of Machine Construction

Literaturo.

Date: 1950

Available: Library of Congress

Sourcei Monthly List of Russian Accessions, Vol. 1, No. 5, p. 315

FUKS, S. I.

Tverdye splavy i ikh primenenie pri skorostnom rezanii. Kiev, Mashgiz, 1950. 76, (2) p. diagrs.

Bibliography: p. 77.

Using hard alloys for high-speed cutting.

DLC: TJ1230.F83

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000513910002-0"

FUKS. S.I., kandidat tekhnicheskikh nauk, dotsent; BRAUN, M.P., doktor tekmicheskikh nauk, redaktor; LEUTA, V.I., inzhener, redaktor; RUDENSKIY, Ya.V., tekhnicheskiy redaktor [Heat treatment of cast iron] Termicheskaia obrabotka chuguna. Kiev. Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry. 1954. 144 p. (MIRA 8:3) (Cast iron) (Metals-Hoat treatment)

CIA-RDP86-00513R000513910002-0" APPROVED FOR RELEASE: 03/13/2001

· de la companyación de la compa

8. (3), 18 (3) AUTHOR:

Fuks, S. I.

SOV/163-59-2-44/48

TITLE:

The Metal for Steel Overhead Lines (Metall dlya stal'nykh

provodov vozdushnykh liniy svyazi)

PERIODICAL:

Nauchnyye doklady vyssney shkoly. Metallurgiya, 1959, Nr 2,

pp 238 - 244 (USSR)

ABSTRACT:

The behavior of the metal used at present in the USSR for steel lines, and their zinc-coating, was compared with samples of lines in or out of operation with different degrees of wear. The fine structure of the steel is shown in figure 1. The durability of the zinc coat amounts to 2-3 years in industrial areas, to 5-6 years in town areas. The rates of corrosion in individual areas are indicated in table 1. An increase in durability by a thicker zinc coat is inconvenient since zinc is a rare substance. An increase in the corrosion resistance of steel is more convenient. Figure 2 shows the favorable influence of phosphorus (0.1%) extending the durability by 50-100%. Table 2 indicates the mechanical properties and the electric resistance of old, not zinc-coated lines with different contents of phosphorus. A recrystallizing annealing at 650-700° would produce

Card 1/2

a more favorable fine structure (Fig 3): uniform fine ferrite

CONTRACTOR OF CHARLES AND CONTRACTOR OF CONT

The Metal for Steel Overhead Lines

sov/163-59-2-44/48

with a small quantity of granular or lamellar perlite. To improve the quality, it is also suggested to prepare a zinc layer with 0.3-1.5% P. Besides. operational tests are to be made with wire containing phosphorus and copper (0.06-0.10% P, 0.15-0.20% Cu). The hard upper layer of the cold-drawn wire is to be eliminated by annealing. Besides, more perfect manufacturing processes, such as inductive heating and hot drawing, are to be applied. There are 3 figures, 2 tables, and 8 Soviet references.

ASSOCIATION:

Odesskiy politekhnicheskiy institut (Odessa Polytechnic Insti-

SUBMITTED:

June 16, 1958

Card 2/2

FUKS, S. L., Cand Tech Sci -- (diss) "Research into the process of heat exchange in compartments with large surfaces of external enclosures." Minsk, 1960. 17 pp; (Ministry of Higher and Secondary Specialist Education and Professional Education Belorussian SSR, Belorussian Folytechnic Inst im I. V. Stalin, Chair of Heat Supply and Ventilation); 200 copies; price not given; (KL, 26-60, 139)

Existing methods for calculating heat losses, their shortcomings and measures for creating comfortable conditions in buildings.

Shor. nauch. trud. Bel. politekh. inst. no.74:115-140 '59.

(Radiant heating)

(Heat—Hadiation and absorption)

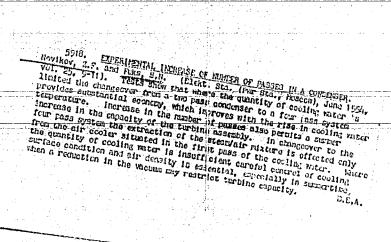
FUKS, S. N.

"Heat Emission During Condensation of Steam on Horizontal Pipes in the Presence of Air." Sub 16 May 51, All-Union Order of the Labor Red Panner Heat Engineering Sci Res Inst imeni F. E. Dzerzhinskiy

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

fuks, s. n.						 	 PA 246179		
	USSR/Engineering - Heat Transfer, Con- Nov 52 densation	"Effect of the Air Admixture on Heat Transfer During Condensation of Moving Steam," Dr. Tech Sci L. D. Berman, Cand Tech Sci S. N. Fuks, Leb of Condensation Installatons	Iz V-S Teplotekh Inst, No 11, pp 11-18	Describes expts which corroborated previous conclusion that there is no well-defined relationship between relative change of heat transfer coeff and compn of steam-air mixt. Establishes that	248 r 79	increase in velocity of mixt with high air content permits considerable intensification of heat exchange, this factor being essential in designing condensers for steam turbines and other condensers for vapor-gas mixts.		248rrj	
	24150 A 150		100 1 100 1		a see a si		ne week become		



APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000513910002-0

AID P - 3891

Subject

ピッちゃっちゃ

: USSR/Power Eng.

Card 1/1

Pub. 110-a - 12/17

Author

: Fuks, S. N., Kand. Tecan. Sci., All-Union Heat

Engineering Institute

Title

: Surface cooling by individual areas in a new type of

LMT condensers.

Periodical

: Teploenergetika, 11, 51-55, N 1955

Abstract

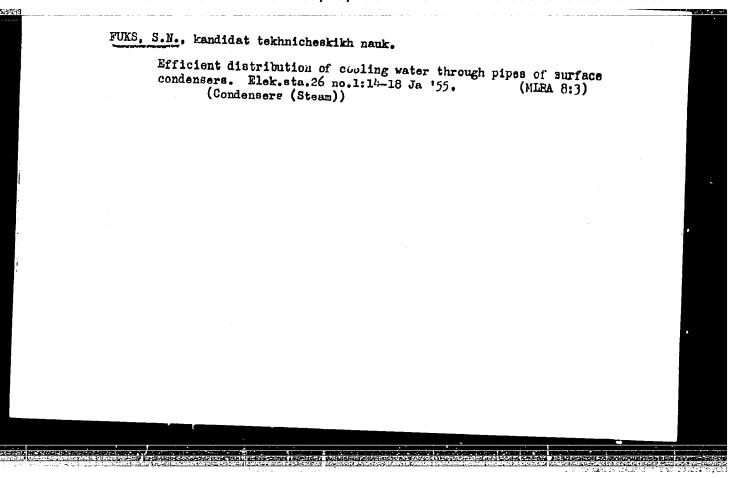
Research done on the operation of new type condensers for high pressure turbines is presented. Some defects in the design of the tube nest are explained and suggestions for improvements are made. Eight figures.

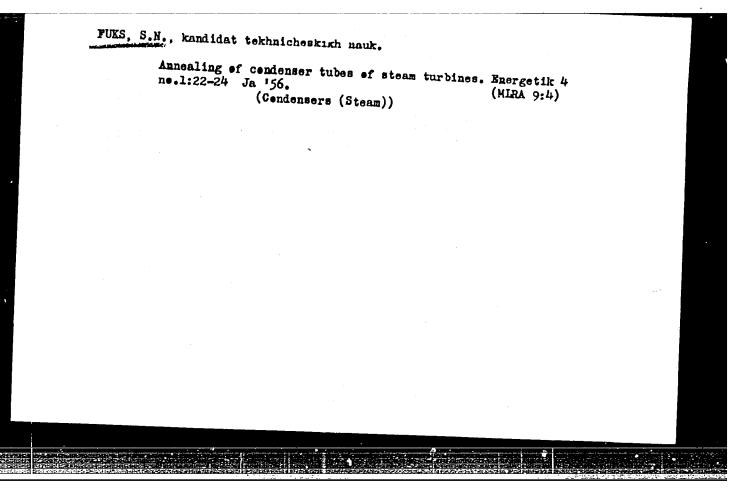
Two Russian references, 1947-1953.

Institution: None

Submitted

No date





AID P - 4957

Subject : USSR/Engineering

Card 1/1 Pub. 110-a - 6/21

: Berman, L. D., Dr. Tech. Sci., and S. N. Fuks, Kand.

Tech. Sci.

Title Improving the water seal of steam condensers used with

superhigh pressure turbines.

: Teploenergetika, 8, 25-31, Ag 1956 Periodical

: Methods are examined for improving the joints between Abstract

condenser tubes and headers. The composition of alloys used for condenser tubes is given in Table 2. 2 tables,

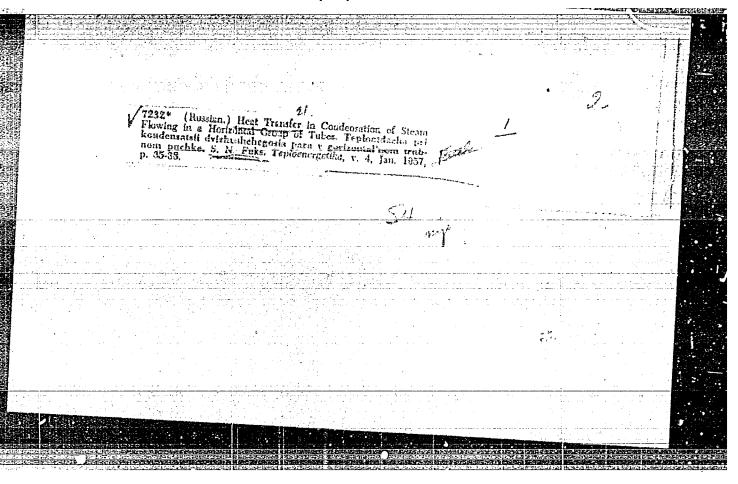
10 diagrams.

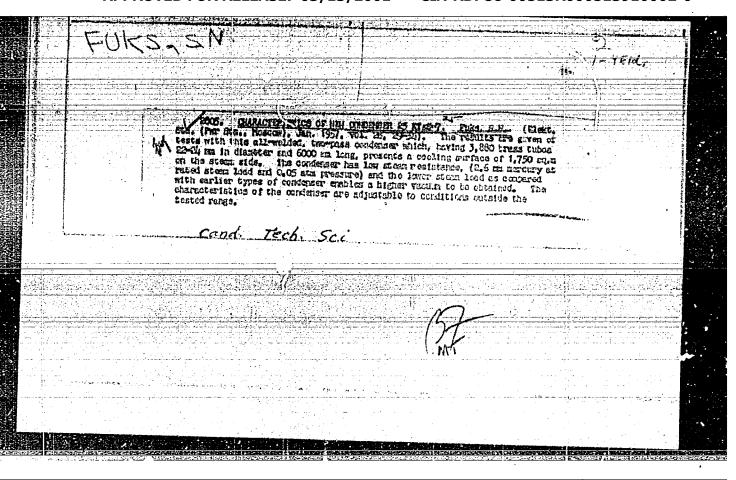
Institution: All-Union Heat Engineering Institute

Submitted : No date

Authors

CIA-RDP86-00513R000513910002-0" APPROVED FOR RELEASE: 03/13/2001





S0V/96-58-8-14/22 AUTHORS: Berman, L.D. (Doctor of Technical Science) and

Fuks, S.N. (Candidate of Technical Science)

TITLE:

Mass Exchange in Condensers with Horizontal Tubes when the Steam contains Air (Massoobmen v kondensatorakh s gorizontal nymi trubami pri soderzhanii v pare vozdukha)

Teploenergetika, 1958 Ir 8, pp 66-74 (USSR) PERIODICAL:

ABSTRACT: Values of the heat-transfer coefficient related to the mean logarithmic temperature difference of steam and water are used in calculations on steam condensors and similar equipment but are not well defined because the steam contains gas, mainly air. The influence of mass exchange on the intensity of steam condensation is very complicated and the heat-transfer coefficient depends on the design of the condenser and of the air pump or ejector. Even the best of the empirical formulae do not allow accurately for all the factors that influence the heat-transfer coefficient. Experimental data for the mean coefficient, though useful, are not always adequate, particularly when comparing

Card 1/6

different designs and equipment. It is, therefore, important to accumulate the necessary experimental data

Mass Exchange in Condensers with Horizontal Tubes when the Steam contains Air

for the determination of local values of heat- and masstransfer coefficient. The All-Union Thermo-Technical Institute accordingly carried out three series of tests in 1950-1952, and a fourth series in 1956-1957, on the condensation of steam in the presence of air. The tes are applicable to apparatus with horizontal tubes.
Earlier work gave local values of heat-transfer coefficient The tests from the steam side, but it was very difficult to investigate mass exchange because the parameters of the condensate film and of the steam-air mixture at the phase boundary (Fig 1) could not be measured directly.
According to the kinetic theory, there should be temperature and pressure jumps at the phase boundary, but they are not revealed even at very low pressures. can be understood on the basis of resent American work, and it is now evident that these jumps may be neglected at the pressures now under discussion. The authors have already shown that equations can be formulated for heattransfer during the condensation of moving pure steam;

Card 2/6

SOV/96-58-8-14/22 Mass Exchange in Condensers with Horizontal Tubes when the Steam contains Air

> during the tests in which the expressions were derived work was also done on a steam-air mixture. A further problem was that the experimental conditions were such that it was not possible to use the usual dimensionless relationships for the coefficient of mass-transfer based on the approximate analogy between heat- and mass-transfer. Later work, published in Teploenergetika Nr 5, 1954 and Nr 8, 1955, gave an expression for the mass-transfer coefficient during the condensation of steam from a moving steam-gas mixture. When these expressions had been derived it became possible to work out test results to obtain generalised relationships for mas -transfer coefficients. The experimental equipment for the first three series of tests used a closed steam-condensing circuit (see Fig 2a). The experimental condenser was of rectangular section with internal dimensions of 309 x 522 mm. Firstly two brass tubes were installed, a main and a control tube (Fig 3a). Then to obtain higher velocities

Card 3/6 the width of the working part of the condenser was reduced

Mass Exchange in Condensers with Horizontal Tubes when the Steam

to 80 mm and only one tube was used (Fig 3b). bundle in an 11-row honeycomb arrangement was fitted in the Next a tube condonser (see Fig 3). In all cases the outside diameter of the tubes was 19 mm and the active length 522 mm. The fourth series of tests was run to obtain data at high airconcentrations and lower speeds; for this the equipment could be somewhat simplified (see Fig 2b). The tulbundle arrangement for this test is shown in Fig 3. measuring techniques used in the tests are described, and the mathematical treatment applied to the results is explained. During the tests the pressure of the steam-air mixture ranged from 0.047 - 0.91 atms. The ranges variation of the other main parameters are set out in The ranges of Table 1. By way of example, Table 2 gives the results for the fourth series of experiments with the Reynolds number greater than 350. Although the data were varied over a wide range, the mass exchange data for the region of Reynolds number greater than 350 could be expressed by the single equation (8). The test results for values of Reynolds number greater than 350 are given in Figs 5 - 9.

Card 4/6

SOV/96-58-8-14/22 Mass Exchange in Condensers with Horizontal Tubes when the Steam contains Air

In Figs 5, 6 and 9 most of the experimental points lie within ± 15% of the mean line. In determining mass-transfer coefficients there are, in addition to the ordinary errors of measurement, others associated with the indirect method of determining the parameters on the phase boundary. this in mind, the results obtained may be considered satisfactory. The curves are discussed at some length. Those for the fourth series of tests, for Reynolds numbers renging from 40 - 350, are seen in Fig 10. The equation corresponding to the mean line is given, but it must be regarded as tentative and subject to future correction. It should be used only for a first approximation, in conjunction with equation (5). A combined graph of the results of the four series of experiments is given in Fig 11. It is concluded that the tests confirmed that the mass-transfer confident during condensation depends on the sin content coefficient during condensation depends on the air content of the mixture and on another criterion as well as on the Reynolds and Prandtl numbers. With decreasing gas content, Card 5/6 the coefficient rises rapidly and tends to indinity as the

SOV/96-33-8-14/22 Mass Exchange in Condensers with Horizontal Tubes when the Steam contains air

conditions of condensation of pure steam are approached. Compared to the purely empirical formulae, the equations now given for the mass-transfer coefficient make possible more reliable determinations of the general coefficient of heat-transfer from a steam-air mixture to the tube walls under various conditions.

There are 11 figures, 2 tables, 14 literature references (11 Soviet, 2 English, 1 German)

ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy institut (All-Union Thermo-Technical Institute)

1. Steam condensors—Design 2. Steam condensors—Mathematical analysis 3. Steam condensors—Heat transfer

Card 6/6

-	P	(2)) , ••	4			11		•	· · · · · · · · · · · · · · · · · · ·					
ALLEGAMENT DELLEGAMENT DELLEGA	100 100 100 100 100 100 100 100 100 100	M44. (Title page); D., M. Rubinshops, Professor, and L. V. Millerityrer, Corresponding Nations, Androy of Sciences Will; M. (Inside book); L. J. Mandry of Sciences Will; M. (Inside book); L. J. Mandry, M. M. Mandry, M.	COTILITY This collection of Exritoirs deals with aspects of rubing constitution, particularly, variations is the hart performents of found to and computation of options permeter for ges withins. The case of the computation of particular to an extension of the constitution of the consti	•	Executing and types of the manyles of the Baring Properties of 175 Secreting and Types of the manyles with the manyles of the seat types of lacing are analyzed with report to brints and types of lacing are analyzed with report to therefore—manyle strictory. Ourse are parted influenting the department of theying properties of they force.	Layelima, B. L. Brantination of the logarithmic benesate for Thereloo Branting to Remove of Licenal Thereticas 176 Rethols of married to make the layely opts of free thereticas are threaten, and while for the logarithmic derivates are denoted.	Appropriate, i.p., dame herrite of an Experimental Investigation of Michael Enter Barrier, and Michael Speciment Barrier, and the series the series formal such a true bearing. Meanly journal-type thrust bearing. Sewmal imprication systems are described with reference to service reliability and minimum stratum loans.	Branc, L.D., and E.R. Plus. Decreat Sating of Condenser Thes in 209 "Marriaging and contact and contac	Mingre, M.M. Methods of Delpuing Jet Condessers Arraquements of multipet ejector condessers and layouta of crages are discussed and design and calculation methods gives-	No. Libragor, Ye. L., G.G. Ol'Hoovidy, and G.I. Stralov. Braile of Final Adjustment and Preting of a 1,500-brd Cos Tarolto Plant. Pre-operational testing of a G-600-L.5 turties is described.	Molboacov, Nail. Belettin of the Farting fronting for the described process to the below and the below of the the for the transity of the farting Cast the below 201 to the farting the farting where and strend-little patents for careful recessions whith respect to their electric reagns are discussed.	Margerilly, A.V. Optimal became for falet Supersture in 265 Maltinum Carlothins Flusts The problem of cycle superstures were pressure ratios par indictional stage in discussed. Several suction for selecting the optimal thermal-efficiency regime are emission.	Polymorphily, Ja.L. Behandantion of the Nort Effective Brane for 275 the Begannistic Types of also-vertice Flant. The advertive method of computation, applicable 4g a ctatatometer plant, to determine the almost of repensaler effectiveness. The author on also be used for repensaler effectiveness men.	ANALIAMER: Library of Congress	
														_:	
ESPERANCE CASHERRAN		arrex sassana	AND THE STATE OF T							WOLDS NEA				o sales el	

sov/96-59-7-16/26

AUTHORS: Berman, L.D., Doctor of Technical Sciences, and Fuks,

S.N., Candidate of Technical Sciences

TITLE: The Design of Surface Heat-exchange Equipment for

Condensing Steam from a Steam/air Mixture. (Raschet poverkhnostnykh teploobmennykh apparatov dlya kondensatsii para iz parovozdushnoy smesi)

PERIODICAL: Teploehergetika, 1959, Nr 7, pp 74-84 (USSR)

ABSTRACT: In calculating the surface of heat-exchange equipment

when one of the fluids is a liquid and the other is steam with a certain quantity of inert gas, allowance must be made for several factors. They are: the composition and rate of flow of the steam/gas mixture; differences of temperature and partial pressure along the path of the moving mixtures; and also differences between local heatmand mass-transfer coefficients along the path. The whole problem is very complicated and naturally there have been many attempts to simplify the calculations. These are reviewed and it is concluded that in every case the simplification is based on an insufficiently clear understand-

Card 1/6 ing of the mechanism of the process. As a result, the

The Design of Surface Heat-exchange Equipment for Condensing Steam from a Steam/air Mixture

usual simplifications may give rise to very great errors in the calculations. However, it is shown in the course of the article that if experimental relationships are used for the heat- and mass-transfer coefficients it is possible to introduce certain simplifications into the calculations. In particular for the case of condensing steam containing air there is practically no need to make the laborious simultaneous determination of two inter-related temperatures. The procedure described in the article is based on the use of experimental relationships: it is assumed that the conditions are such that the quantity of heat transmitted from the steam/gas mixture to the condensate film by convection and the heat evolved in cooling the condensate may both be neglected, as they are small compared with the heat of phase conversion. Changes in the total pressure of the system resulting from the resistance of the heat-exchanger tubes is also neglected. The data usually provided for the purpose of making the calculations is then listed and formula (1) is given for the specific thermal

Card 2/6

The Design of Surface Heat-exchange Equipment for Condensing Steam from a Steam/air Mixture

loading of the heating surface. The coefficient of dynamic viscosity of a saturated mixture of steam and air enters into the calculations and may be obtained from the graph in Figure 2. A knowledge is also required of the heat-transfer coefficient from the water flowing in a tube to the tube walls, and may be obtained from the nomogram in Figure 3. Equation (11) is then derived: the complex C given by equation (11a) may be obtained from the graphs in Figure 4. It should be remembered that the basic equations (2), (3) and (4) were determined experimentally for horizontal bundles of tubes of a given pitch; care must be exercised in applying them to other arrangements of tubes. Moreover, formula (10) can be applied to vertical tubes only if there is laminar flow of the condensate film. By way of illustration a numerical example is given of a specific calculation of the cooling surface required for the first-stage cooler of a steam-jet injector. The necessary numerical values are given. The cooler surface is sub-divided into six

Card 3/6

The Design of Surface Heat-Exchange Equipment for Condensing Steam from a Steam/air Mixture

> sections which may be treated separately. The sections are then considered in turn and values are derived for the specific thermal loading. The calculations are repeated for a number of tube outside-wall temperatures and the results for the first of the sections are given in Table 1. Calculations on the second and successive sections are made in just the same way; the results are given in Table 2 for two variants of cross-sectional area of the steam/air duct. In the first variant the cross-section remains constant throughout and as the steam condenses the speed of the mixture falls. In the second, the cross-section diminishes as the steam condenses, so that the speed remains constant. For the first variant, which is commonly found in practice, the necessary cooler surface is 7.89 square metres, but for the second variant it is only 5.45 square metres. The results of the calculations are used to determine the number of tubes, their arrangements and other details. When examined, the results of the calculations show that the

Card 4/6

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000513910002-0"

The state of the s

The Design of Surface Heat-exchange Equipment for Condensing Steam from a Steam/air Mixture

> experimental value of the mean heat-transfer coefficient and of the heat-transfer coefficient from the steam side, obtained from balancing tests such as are usually quoted in the literature, has little meaning. To prove the point, these coefficients are calculated for each of the six sections with both variants and the results are given in Table 3. The variations in local heat-transfer coefficients and heat-transfer coefficients from the steam side as a function of the temperature difference between the mixture and water are plotted in Figure 6 and 7 for variants 1 and 2 respectively. It is shown that for the case of condensing steam containing inert gas the usual determination of the mean temperature difference does not correspond to the realities of the process and can lead to very contradictory results. The conclusions about the general inadequacy of the usual methods of calculation are fully confirmed by test results. It is quite erroneous to attempt to 'correct' values of the heat-transfer coefficient related to the mean logarithmic temperature difference by

Card 5/6

507/96-59-7-16/26

The Design of Surface Heat-exchange Equipment for Condensing Steam from a Steam/air Mixture

allowing for the reduction in temperature of the steam/
air mixture as it condenses. Different methods of calculating the mean surface heat-transfer coefficient from
the steam side are compared in Table 4 and here again it
is found that the usual coefficients are quite arbitrary,
It follows that in designing heat-exchange equipment in
which a gas/steam mixture is condensed use should be made
of methods of the type described above, which are based
on experimental relationships for local coefficients of
heat- and mass-transfer. The calculations cannot yet be
made for all the various conditions met in practice, for
lack of experimental data. It is accordingly important
to determine additional data for mixtures of various vapours
and gases and for tubes of various diameters arranged in
different ways.

There are 7 figures, 4 tables and 23 references, of which 11 are Soviet, 7 English, 4 German and 1 French.

ASSOCIATION: Vsesoyuznyy teplotekhnicheskiy institut (All-Union Thermo-Technical Institute)

Card 6/6

SOV/91-59-8-21/28

8(6)

AUTHORS: Berman, L.D., Doctor of Technical Sciences and iks, S.N., Can-

didate of Technical Sciences

TITLE:

The Luminescent Method of Detecting Water Leaks in Steam Turbi-

ne Condensers

PERICDICAL:

Energetik, 1959, Nr 8, pp 30-33 (USSR)

ABSTRACT:

The author describes a method of detecting leaks in steam turbine condensers by filling the condenser with water in which a fluorescent material (C₂₀H₁₂O₅) has been dissolved. The interior of the condenser tubes is then inspected by means of a quartz lamp. This method is used since 1954 by VTI. It is based on descriptions in foreign periodicals ("Engineering", 1949 and "Power", 1950). The author describes this method in detail and gives recommendatins concerning the type of quartz lamp to be used. Mineraloscopes LYuM-1 and LYuM-2 equipped with mercury quartz lamps PRK-4 and ultraviolet light filters UFS-3 or UFS-4 may be used. The filters pass light of 320-400 millimicron wavelength. Luminescent mineraloscopes were produced by the plants "Krasnog-

Card 1/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000513910002-0"

SOV/91-59-8-21/28

The Luminescent Method of Detecting Water Leaks in Steam Turbine Condensers

vardeyets" and "Geologorazvedka". Tables 1 and 2 contain data on mercury quartz lamps PRK-2, PRK-4, PRK-5, PRK-7 and PRK-8. The author states that this method is of great importance for high-power turbines. For example, with a 150 megawatt turbine PVK-150, a 0.001% suction will correspond to an amount of 3 liters/hour of water. For medium and high pressure turbines, the permissible suction of condenser water amounts to 0.1-0.3%, while boilers with superhigh steam parameters require 0.001-0.005%. There are 1 diagram, 1 circuit diagram, 2 tables and 4 references, 2 of which are English, 1 Soviet and 1 German.

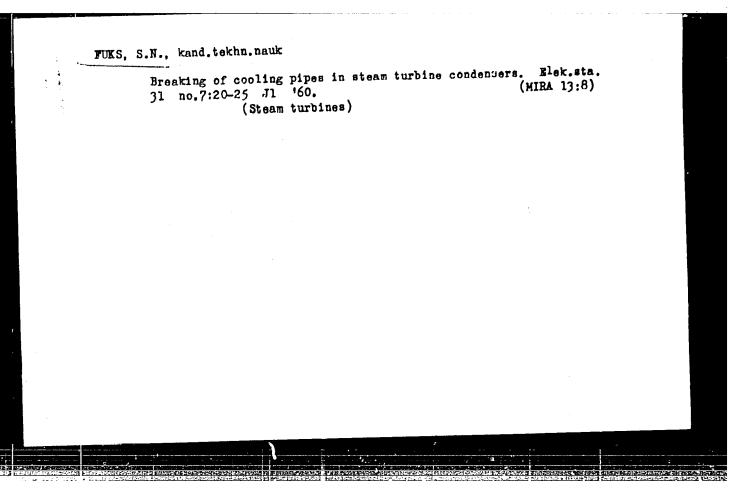
Card 2/2

Herman, L.D., doktor tekhn.nauk; KUKS, S.N., kand.tekhn.nauk

Hermatic sealing of steam turrine condensor pipe plates.

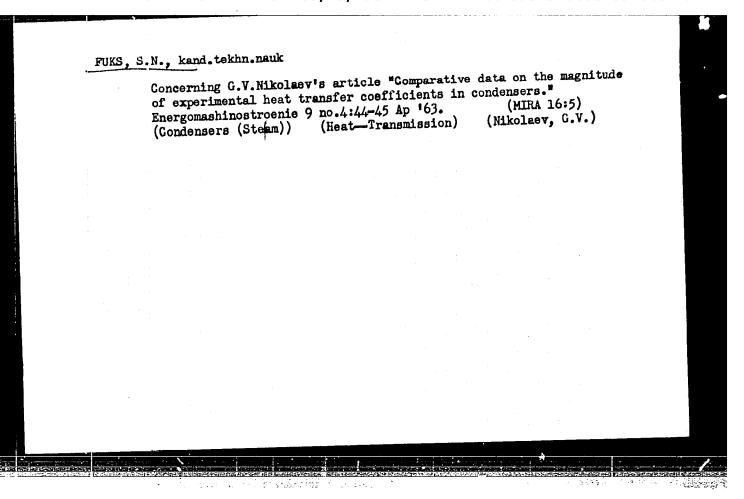
Elek.sta. 31 no.4:32-36 A7 '60. (MIRA 13:7)

(Steam-turbines)



BERMAN, Solomon Semenovich; FUKS, S.N., red.; BUL'DYAYEV, N.A., tekhn. red.

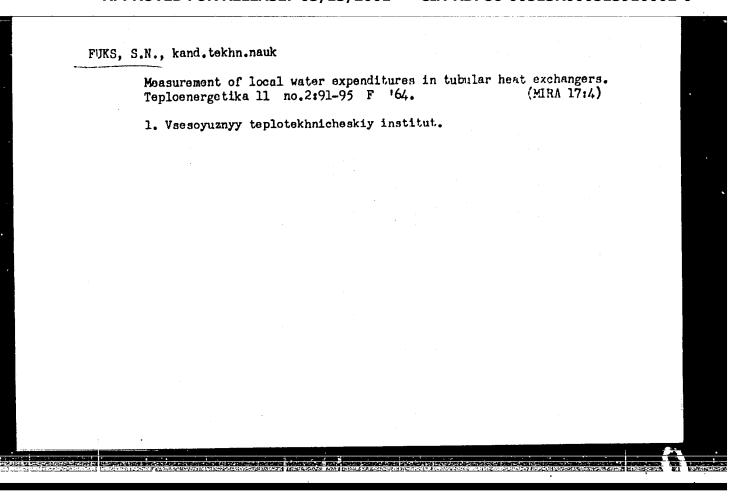
[Calculation of heat exchangers of turbine systems]Raschet teploobmennykh apparatov turboustanovok. Moskva, Gosenergo-izdat, 1962. 239 p. (MIRA 16:2) (Heat exchangers) (Steam turbines) (Gas turbines)

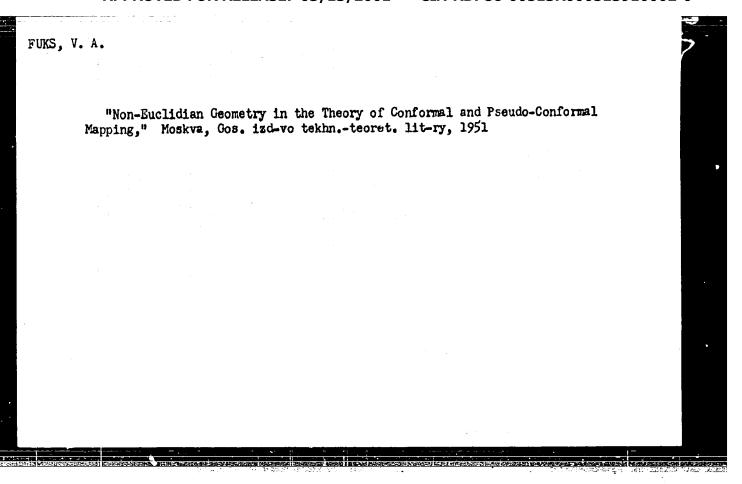


FUKS, S.N., kand. tekhn. nauk Study of the operation of the condenser of the K-150-130 KhTGZ turbine. Teploenergetika 10 no.8:10-16 Ag '63. (MIRA 16:8) 1. Vsesoyuznyy teplotekhnicheskiy institut. (Condensers (Steam)) (Steam turbines)

FUKS, S.N., kand. tekhn. nauk

Barometric vacuum gauge for measuring the pressure of spent steam of steam turbines. Energetik 11 no.8:14-16 Ag '63. (MIRA 16:10)





KAGAN, Vera Zinov'yevna; VINOGRADOV, N.V., doktor ekon. nauk, prof., retsenzent; DMITRIYEV, V.M., inzh., ekon., retsenzent; FUKS, V.K., red.; SATAROVA, A.M., tekhn. red.

[Economics and planning in the starch and mollases industry] Ekonomika i planirovanie krakhmalo-patochnof promyshlennosti. Moskva, Pishchepromizdat, 1963. 277 p. (MIRA 16:7)

(Starch industry)

WAS'KO, T.P.; PLEVAKO, Ye.A., spetsred.; TWKS, V.K., red.; YAROV, B.M., tekhn. red.

[Use of spent grain in yeast products; practices of the Kiev Yeast Factory] Ispol'zovanie bardianoi zolki v drozhzhevom proizvodstve; iz opyta Kievskogo drozhzhevogo zavoda. Moskva, Pishchepromizdat, 1956. 22 p. (MIRA 11:9)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000513910002-0"

AND AND THE PROPERTY OF THE PR

VOLKOV, Leonid Mikhaylovich, VISHMEVSKIY, Serafin Mikhailovich, MOISEYEV, P.N., retsenzent, DONSKOV, V.Ye., retsenzent, Tolchenov, T.V. spets.red.; FUKS, V.K., red.; KISINA, Ye.I., tekhn.red.

[Organization of production in a tobacco factory] Organizatelia proizvodstva na tabachnoi fabrike. Moskva, Pishchepromizdat, 1957.
93 p. (MIRA 11:9)

(Tobacco industry)

ZHIGALOV, A.N., kand. ekon. nauk; CHUKHAR'KO, Z.T., kand. ekon. nauk, retsenzent; LYUBUSHKIN, V.T., kand. tekhn. nauk, spetsred.; YUKS, V.K., red.; KISINA, Ye.I., tekhn. red.

[Utilization of the capital assents of state-owned rural mills]
Ispol'zovanie osnovných fondov gosudarstvenných sel'skokhoziaistvenných mel'nits. Moskva, Pishchepromizdat, 1958. 122 p. (MIRA 11:8)

(Flour mills)

MASEOV, Ivan Nikolayevich; ZAPKHINA, Nina Vasil'yevna; SOKOLOVA, Nina
Ivanovna; SOKOLOVSKIY, A.L., prof., retsenzent; FUKS, V.K., red.;
GOTLIB, E.M., tekhn.red.

[Manufacture of oriental candieu and pastry] Proizvodstvo vostochnykh
sladostei. Moskva, Pishchepromizdat, 1959. 97 p. (MIRA 12:12)

(Confectionery)

MUSCLIN, Konstantin Ivanovich; FUKS, V.K., red.; TARASOVA, N.M., tekhn.red.

[Nomographic calculations for the alcohol production processes; nomograms of the technology and technical and chemical control of the alcohol production] Nomograficheskie raschety spirtovogo proizvodstva; nomogramny po tekhnologii i tekhnokhimicheskomu kontroliu spirtovogo proizvodstva. Moskva, Pishchepromizdat, 1959.

(MIRA 13:5)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000513910002-0"

addinantical invariante form a circumstate and the control of the control of the circumstate and the circumstate and the circumstate and the circumstate and c

MOREYNIS, Yakov Izrailevich; BARKOVSKIY, N.D., retsenzent; SHVUIM, D.M., spetsred.; FUKS, V.K., red.; SOKOLOVA, I.A., tekhn.red.

[Financing and crediting of sugar industry enterprises] Finansi-rovanie i kreditovanie predpriiatii sakharnoi promyshlennosti.

Moskva, Pishchepromizdat. 1959. 176 p. (MIRA 12:9)

(Sugar industry--Finance)